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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,024	06/09/2000	David Alan Burton	TUC92000014US1	3477

46917 7590 07/14/2006

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EXAMINER	
MIRZA, ADNAN M	

ART UNIT	PAPER NUMBER
2145	

DATE MAILED: 07/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/591,024	BURTON ET AL.	
	Examiner	Art Unit	
	Adnan M. Mirza	2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-17,19-31 and 33-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-17,19-31 and 33-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims1-3, 5-17,19-31,33-42 rejected under 35 U.S.C. 103(a) as being unpatentable over Bare (U.S 2003/0016624) in view of Hatakeyama (U.S. 6,542,468) and Kinjo et al (U.S. 6,944,684).

As per claims 1,15,29 Bare disclosed a method for selecting one of multiple data paths to a device, comprising: selecting one of multiple paths indicated as enabled to transmit data, wherein a path is indicated as enabled or disabled (Page. 3, col. 0030-0032);

However Bare did not disclose in details of gathering transfer time data for multiple transfer sizes for each enabled path capable of being selected; wherein the transfer size is a size of the data being transferred in one transfer operation; and indicating a path indicated as enabled to be selected to transfer data for a given transfer size as disabled for the given transfer size having transfer time data for the given transfer size satisfying a threshold transfer size.

In the same field of endeavor Hatakeyama disclosed a method and a storage medium for autonomous selecting an optimum path by recording transmission data and response time per

unit data length of response data, which is returned from a destination node to a transmission node, and by estimating the response time for each path by using the recorded information, when the data requesting a service is transmitted from the transmission source node to the transmission destination node (col. 4, lines 53-60). The path calculating unit 131A issues a service request to the service providing server group 110 by using the obtained path including the mirror server and the Proxy server (step S107), and passes control to the response information managing unit 131 B stores in the actual response time table 190 the request date and time when the client group makes the service request, the request data length, the transmission source address, the transmission destination address, and the path selected in step S106 as new records (step S108) (col. 15, lines 1-9).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated a method and a storage medium for autonomous selecting an optimum path by recording transmission data and response time per unit data length of response data, which is returned from a destination node to a transmission node, and by estimating the response time for each path by using the recorded information, when the data requesting a service is transmitted from the transmission source node to the transmission destination node. The path calculating unit 131A issues a service request to the service providing server group 110 by using the obtained path including the mirror server and the Proxy server (step S107), and passes control to the response information managing unit 131 B stores in the actual response time table 190 the request date and time when the client group makes the service request, the request data length, the transmission source address, the transmission destination address, and

the path selected in step S106 as new records (step S108) as disclosed by Hatakeyama in the method of Bare because with the conventional path selecting apparatuses, a repeater contagious to a client can be selected in static manner. That is, it is impossible to select a path in a dynamic manner as the performance of each repeater dynamically varies (col. 4, lines 31-36).

However Bare and Hatakeyama did not disclose in detail wherein paths indicated as disabled for the given transfer sizes are not capable of being selected to use to transmit data. Having the given transfer size, wherein one path is capable of being concurrently indicated as disabled for a first transfer size and enabled for a second transfer size.

In the same field of endeavor Kinjo disclosed, when information communication is to be performed between the two systems, the communication path is selectively used in accordance with (transfer size) of information subjected to the information communication. More specifically, when the transfer size is small, the first communication path capable of high speed response when the transfer size is used, and when the transfer size is large, the second communication path having larger transfer capability is used, thereby enabling high-speed information communication between the two systems (col. 3, lines 29-38).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated when information communication is to be performed between the two systems, the communication path is selectively used in accordance with (transfer size) of information subjected to the information communication. More specifically, when the transfer

size is small, the first communication path capable of high speed response when the transfer size is used, and when the transfer size is large, the second communication path having larger transfer capability is used, thereby enabling high-speed information communication between the two systems as taught by Kinjo in the method of Bare and Hatakeyama to reduce the bottleneck and improve the reliability between the controllers.

3. As per claims 2,16,30 Bare and Hatakeyama-Kinjo disclosed indicating one disabled path as enabled after performing a threshold number of transfer operations (Hatakeyama, col. 5, lines 37-42).

4. As per claims 3,17,31 Bare and Hatakeyama-Kinjo disclosed disabling the path for a first threshold number of transfer operations if the path has a transfer data time satisfying a first threshold; and disabling the path for a second threshold number of transfer operations if the path has a transfer data time satisfying a second threshold Hatakeyama, col. 11, lines 32-47).

6. As per claims 5,19,33 Bare and Hatakeyama-Kinjo disclosed a method for selecting one of multiple data paths to a device, comprising: selecting one of multiple paths indicated as enabled to transmit data, wherein a path is indicated as enabled or disabled for each enabled path (Kinjo, col. 2, lines 29-38), gathering a cumulative transfer time for all transfer operations during a measurement period through the path and a cumulative number of the transfer operations during the measurement period (Hatakeyama, col. 22, lines 40-56); and for each enabled path

determining the average cumulative transfer time for the measurement period by dividing the cumulative time by the cumulative number of transfers, indicating one of the paths as disabled if the average cumulative transfer time for the path satisfies a threshold (Hatakeyama, col. 22, lines 57-64).

7. As per claims 6,20,34 Bare and Hatakeyama-Kinjo disclosed wherein the measurement period comprises a number of transfer operations for all paths, wherein the determination to disable paths occurs after the number of transfer operations in the measurement period has occurred (Hatakeyama, col. 23, lines 14-19), and further comprising starting another measurement period to gather transfer time data after determining paths to disable (Hatakeyama, col. 23, lines 20-26).

8. As per claims 7,21,35 Bare and Hatakeyama-Kinjo disclosed wherein transfer time data is gathered by path and transfer size, and wherein the average cumulative transfer time is calculated for each enabled path and for at least one transfer size (Hatakeyama, col. 22, lines 40-56).

9. As per claims 8,22,36 Bare and Hatakeyama-Kinjo disclosed wherein the measurement period comprises a number of transfer operations for all paths for a transfer size, wherein the determination to disable paths for a transfer size occurs after the number of transfer operations in the measurement period has occurred (Hatakeyama, col.14, lines 54-64), and further comprising starting another measurement period to gather transfer time data for the transfer size after determining paths to disable for the transfer size (Hatakeyama, col. 15, lines 45-65).

10. As per claims 9,23,37 Bare and Hatakeyama-Kinjo disclosed wherein the transfer time is measured from the time the transfer is sent to the device to the time a response is received from the device indicating that the transfer completed, further comprising adding the transfer time for a 4 transfer transmitted down the path to the cumulative transfer time for the path (Hatakeyama, col. 22, lines 40-56).

11. As per claims 10,24,38 Bare and Hatakeyama-Kinjo disclosed further comprising: for each enabled path, determining a best average transfer time from the average cumulative transfer times for all paths (Hatakeyama, col. 22, lines 40-56), wherein determining whether the average cumulative transfer time for one path satisfies the threshold comprises determining whether the average cumulative transfer time for the path exceeds the best average transfer time by a percentage amount (Hatakeyama, col. 11, lines 48-59).

12. As per claims 11,25,39 Bare and Hatakeyama-Kinjo disclosed wherein determining whether the average cumulative transfer time satisfies the threshold further comprises disabling the path for a first number of transfer operations if the average cumulative transfer time for the path exceeds the best average transfer time by a first percentage amount and disabling the path for a second number of transfer operations if the average cumulative transfer time for the path exceeds the best average transfer time by a second percentage amount (Hatakeyama, col. 22, lines 40-56).

13. As per claims 12,26,40 Bare and Hatakeyama-Kinjo disclosed wherein the multiple paths comprise multiple paths between a first controller and a second controller, and wherein one path is selected to transmit updates to a primary storage area managed by the first controller to the second controller to store in a secondary storage area (Bare, Page. 18, col. 0239).

14. As per claims 13,27,41 Bare and Hatakeyama-Kinjo disclosed wherein transfer time data is gathered by path and a size of the update, wherein a path is disabled for a given update size and wherein the path is capable of being enabled for at least one other update size (Bare, Page. 20, col. 0266).

15. As per claims 14,28,42 Bare and Hatakeyama-Kinjo disclosed wherein the paths extend through a network (Bare, Page. 3, col. 0031-0032).

Response to Arguments

Applicant's arguments and all the limitation in the claims filed 03/02/2005 have been fully considered but arguments are not persuasive. Response to the following arguments as follows.

16. Applicant reiterates its argument that cited Kinjo on Page 12 lines 17-19 that one path that can be selected is disabled for a given transfer size if the transfer time for the given transfer size exceeds a threshold".

As to applicant's argument Kinjo disclosed, "When information communication is to be performed between the two systems, the communication path is selectively used in accordance with (transfer size) of information subjected to the information communication. More specifically, when the transfer size is small, the first communication path capable of high speed response when the transfer size is used, and when the transfer size is large, the second communication path having larger transfer capability is used, thereby enabling high-speed information communication between the two systems (col. 3, lines 29-38)". One ordinary skill in the art at the time of the invention knows that exceeding the threshold of the transfer size and deselecting it and selecting a path with higher transfer size is also interpreted as disabling the for the given transfer size upon reaching certain threshold.

17. Applicant reiterates its argument regarding that HataKeyama did not disclose, "requirement of disabling the path for a first threshold number of transfer operations if the path has a transfer data time satisfying a first threshold and disabling the path for a second threshold number of transfer operations if the path has a transfer data time satisfying a second threshold".

As to applicants argument HataKeyama disclosed, "the path calculating unit A requests an optimum estimation individual and an actual response time of the estimation information managing unit C. The path calculating unit can adjust the timing at which it request the estimation individual of the estimation information managing unit C according to a life span or a degree of fitness of the estimation individual in consideration of a communication load" (col. 10, lines 51-60). One ordinary skill in the art at the time of the invention knows that disabling a path

is also interpreted as no active path where the path is also managed depending on the communication load of the data.

18. Applicant argued that prior art did not disclose, "gathering transfer time data by path and transfer size and that a path is disabled for a given transfer size".

As to applicants argument HataKeyama disclosed, "a method and a storage medium for autonomous selecting an optimum path by recording transmission data and response time per unit data length of response data, which is returned from a destination node to a transmission node, and by estimating the response time for each path by using the recorded information, when the data requesting a service is transmitted from the transmission source node to the transmission destination node" (col. 4, lines 53-60).

19. Applicant argued that prior art did not disclose, " A measurement period comprises a number of transfer operations for all paths" and "determining a best average transfer time from the average cumulative transfer times for all paths".

As to applicants argument HataKeyama disclosed, "a method and a storage medium for autonomous selecting an optimum path by recording transmission data and response time per unit data length of response data, which is returned from a destination node to a transmission node, and by estimating the response time for each path by using the recorded information, when

the data requesting a service is transmitted from the transmission source node to the transmission destination node" (col. 4, lines 53-60).

Conclusion

20. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

21. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Adnan Mirza whose telephone number is (571)-272-3885.

22. The examiner can normally be reached on Monday to Friday during normal business hours. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on (571)-272-3933. The fax for this group is (703)-746-7239. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for un published applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866)-217-9197 (toll-free).

Adnan Mirza

Examiner

JASON CARDONE
SUPERVISORY PATENT EXAMINER